

AMENDMENTS TO THE CLAIMS

1. (Currently amended): A system for assisting the regeneration of depollution means associated with oxidation catalyst-forming means integrated in an exhaust line of a motor vehicle diesel engine, and in which the engine is associated with common manifold means for feeding fuel to its cylinders, the system being adapted to implement, at constant torque, a strategy of regeneration by injecting fuel into the cylinders of the engine in at least one post-injection, wherein the system includes detection means for detecting at least one of a stage in which the vehicle engine is idling ~~and/or~~, a stage in which the accelerator pedal is being raised, and a stage in which the vehicle engine is idling and the accelerator pedal is being raised, and analysis means for analyzing the activity state of the catalyst-forming means in order to control the common fuel-feed manifold means in order to regulate the quantity of fuel injected during the or each post-injection as a function of the activity state of the catalyst-forming means;

wherein the analysis means for analyzing the activity state of the catalyst-forming means are connected to temperature sensors upstream and downstream from the catalyst-forming means in order to determine an operating point thereof and including determination means responsive to said operating point for determining the activity state of the catalyst-forming means; and

wherein the determination means for determining the activity state of the catalyst-forming means are adapted to compare the operating point of said means with two predetermined activity state transition curves defining ranges for an inactive state, an active state, and an

activity-confirmed state of the catalyst-forming means and for confirming a state after a first predetermined period of time for confirming that the catalyst-forming means are in said state,

wherein, when the catalyst-forming means are in an activity-confirmed state, the common manifold means are adapted to inject a nominal quantity of fuel during the or each post-injection, when the catalyst-forming means are in an active state, the common manifold means are adapted to reduce the quantity of fuel injected during the or each post-injection by a multiplier factor, as a function of the difference between the operating point of said catalyst-forming means and the corresponding transition curve between an active state and an inactive state, and when the catalyst-forming means are in an inactive state, the common manifold means are adapted to limit the quantity of fuel injected during the or each post-injection to a predetermined minimum value.

2. (Previously presented): A system according to claim 1, wherein various hysteresis differences are used depending on the direction of transitions from one state of the catalyst-forming means to another, in order to confirm the state.

3. (Previously presented): A system according to claim 1, wherein the determination means are adapted to maintain information that the catalyst-forming means are in an inactive state during a second predetermined time period after the operating point of said means has crossed the corresponding inactive-to-active transition curve.

4. (Previously presented): A system according to claim 2, wherein the time periods and the hysteresis differences are calibratable.

5. (Canceled)

6. (Currently amended): A system according to claim-~~5~~1, wherein the minimum value is equal to 0.

7. (Currently amended): A system according to claim-~~5~~1, wherein the common manifold feed means are adapted to trigger a plurality of fuel post-injections, and wherein the quantity of fuel injected during each post-injection while the catalyst-forming means are in an active state is regulated independently from the quantity of the other post-injection.

8. (Previously presented): A system according to claim 1, wherein the engine is associated with a turbocharger.

9. (Previously presented): A system according to claim 1, wherein the depollution means comprise a particle filter.

10. (Previously presented): A system according to claim 1, wherein the depollution means comprise a NO<sub>x</sub> trap.

11. (Previously presented): A system according to claim 1, wherein the fuel includes an additive for being deposited together with the particles with which it is mixed on the depollution means in order to facilitate regeneration thereof.

12. (Previously presented): A system according to claim 1, wherein the fuel includes a NO<sub>x</sub> trap forming additive.